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May 16, 1997

Ex Parte

William F. Caton, Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, DC 20554

Re: Ex Parte Meeting
CC Docket No. 96-254

Dear Mr. Caton:

This is to advise you that earlier today, representatives of the Telecommunications Industry Association (TIA) met with the staff of the Common Carrier Bureau to discuss TIA's position with respect to various issues addressed in its prior submissions in the above-captioned proceeding. FCC staff members participating in the meeting included Leslie Selzer, Matthew Nagler, William Howden, and Gregory Cooke. Representatives of TIA in attendance included TIA's Vice President of Standards and Technology, Dan Bart, the association's Director of Government Relations, Grant Seiffert, members of TIA's Section 273 Working Group, and the undersigned. The attached documents reflect the substance of TIA's presentation.

Respectfully submitted,

John L. McGrew

cc: Leslie J. Selzer
Matthew G. Nagler
William E. Howden
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Secretary (two copies)

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TIA EX PARTE PRESENTATION
SECTION 273 RULEMAKING
(CC DOCKET 96-254)

I. OVERVIEW OF COMPETITIVE CONCERNS [TIA Comments pp. 1-6; Reply Comments pp. 1-3; Staff Question No. 2]

A. Positive Impact of MFJ on Telecom Equipment Manufacturing Industry -- increased competition, lower prices, new/improved products, more dynamic, globally competitive domestic equipment industry.

B. TIA's goal is to assist the FCC in implementing Section 273 and related provisions in a way which preserves these benefits, and prevents the return of practices that served to limit competition in equipment markets pre-divestiture.

C. Specific Competitive Concerns

1. RBOCs continue to maintain a dominant position in local exchange markets and control of essential network facilities within their regions.

2. Removal of manufacturing constraints gives RBOCs renewed incentives to engage in practices which operate to impede competition in telecom equipment and CPE markets.

   a. Cross-subsidization

      1) improper pricing of transfers between BOCs and manufacturers in which they have a financial interest.

      2) misallocation of costs associated with manufacturing activities.

   b. Discrimination

      1) disclosure of network-related information.

      2) network design/standards.

      3) procurement.

D. Need for strong safeguards

1. While the 1996 Telecom Act ties an RBOC's entry into manufacturing to its compliance with the market-opening requirements established as a precondition to in-region interLATA entry in Section 271(d), compliance with these requirements merely establishes a basic foundation for competition in local markets.

   [Note: In response to the staff's Question No. 2, to the extent Sections 271 and 273 condition RBOC entry into in-region interLATA services and manufacturing on compliance with the competitive "checklist," these provisions provide additional incentives to comply with the market-opening requirements established in Sections 251 and 252 of the Act.]

2. Pursuant to Section 273(a), an RBOC is authorized to engage in manufacturing on a region-wide basis, through one or more separate affiliates, once any of its affiliated BOCs receive "in-region" interLATA authority under Section 271 in any state in which they operate.

3. Even in those areas where its affiliated BOCs have satisfied the market-opening requirements of Section 271(d), an RBOC will retain a dominant position. Accordingly, significant risks to competition will remain for some time after the RBOCs are granted authority to manufacture under Section 273(a).

4. Recent developments indicate that the deployment of alternative facilities-based networks is at best likely to occur more slowly than was anticipated at the time the 1996 Act was enacted.

5. Consolidation of leading equipment purchasers (e.g., Southwestern Bell/PacTel, Bell Atlantic/NYNEX) further increases risks to competition in equipment markets and the need for strong safeguards.

6. Accordingly, it is essential that the FCC adopt rules implementing Section 273 and related provisions which address the full range of risks to competition in manufacturing in an effective, comprehensive manner. Where necessary, TIA urges the Commission to utilize the supplemental authority granted under Section 273(g) to ensure that its rules adequately address all potential forms of cross-subsidy and discrimination.

II. SECTION 273(a) AUTHORIZATION PROVISIONS [TIA Comments pp. 6-12; Reply pp. 4-9]

A. Timing of RBOC Entry [TIA Reply pp. 4-5; Staff Question No. 12] -- The argument advanced by some RBOCs that BOC "affiliates" are already free to

manufacture is wholly at odds with the statutory scheme and should be rejected. A review of the legislative history makes it clear that the RBOCs are to be permitted to engage in manufacturing only after their receipt of an in-region interLATA authorization and then only through a separate affiliate. Adoption of the RBOCs' proposed construction would render Section 273(a) nonsensical and, as a practical matter, meaningless.

B. Joint Manufacturing Prohibition [TIA Comments p. 7; Reply p. 6; Staff Question No. 3]

1. The NPRM identifies some but not all of the relationships prohibited under Section 273(a). By its terms, this provision also bars joint manufacturing between or among affiliates of unaffiliated BOCs, as well as joint manufacturing involving an affiliate of one BOC and otherwise unaffiliated BOCs or RBOCs.

2. TIA believes the Section 273(a) joint manufacturing restriction does not bar a BOC from engaging in "close collaboration" with any manufacturer, including BOC affiliates, so long as the latter term is properly construed to preclude direct BOC involvement in activities which constitute "manufacturing," as defined under the MFJ.

C. Definition of Manufacturing [TIA Comments pp. 7-12; Reply pp. 7-9; Staff Question 4(a)-(c)]

1. TIA agrees that the term "manufacture" should be construed in a manner consistent with the definition of "manufacturing" adopted under the MFJ. Section 273(h) provides that the term "manufacturing" has "the same meaning as such term has under the AT&T Consent Decree [i.e., the MFJ]." This term was not defined in the decree itself, but was construed by the District Court and the Court of Appeals to include not only fabrication, but also the design and development of hardware and software that is "integral to" telecommunications equipment and CPE. The definition adopted in Section 273(h) would be meaningless if it were not construed to include the MFJ case law, which is explicitly incorporated in the definition of "AT&T Consent Decree" adopted in Section 601 of the 1996 Act.

2. An RBOC may engage in software development which falls within the scope of "manufacturing," as defined under the MFJ, only after receiving authorization pursuant to Section 273(a) and only through a separate affiliate, consistent with the requirements of Section 273(a). The RBOCs and their affiliated BOCs already are permitted to engage in software development that does not fall within the scope of the MFJ definition of "manufacturing," i.e., the development (or modification) of software that is not "integral to" telecommunications equipment or CPE.

3. In light of the increasing competitive significance of software, TIA urges the Commission to clarify which types of software activities constitute "manufacturing" and must be conducted through the BOC's separate affiliate. However, the Commission clearly cannot and should not adopt a definition of "manufacturing" that is fundamentally different from the MFJ definition (e.g., one that excludes product design and development entirely), as some RBOCs have suggested.

III. CLOSE COLLABORATION, RESEARCH, AND ROYALTY AGREEMENTS [TIA Comments pp. 12-18; Reply pp. 9-13]

A. Close Collaboration [Staff Question Nos. 5(a)-(c)]

1. Section 273(b)(1) allows a BOC to interact with a manufacturer to the extent necessary to ensure effective interconnection and interoperation of products designed by the manufacturer for use in connection to the network. A BOC may engage in such interaction before or after it obtains in-region interLATA authority.

   Significantly, this section of the statute does not state that a BOC may participate directly "in" the design of such equipment. It merely clarifies the BOCs' authority to communicate with manufacturers "during" the period in which they (the manufacturers) are engaged in such activities.

   [Note: In response to the staff's Question No. 5(a), TIA does not oppose "nonmanufacturing collaboration." Nor would TIA limit such collaboration to the development of generic specifications.]

2. Adoption of a broad construction of Section 273(b)(1) which allows the BOCs themselves to engage in product-specific design activities would effectively repeal the authorization and joint manufacturing provisions of Section 273(a), as well as the "separate affiliate" requirement of Section 272(a). Product design is the heart of the manufacturing process, and for this reason, RBOCs were barred under the MFJ from engaging in the design of telecommunications equipment and CPE. Language contained in the Senate bill which would have authorized the BOCs to engage in "design" activities was deleted from the legislation in conference. Moreover, Section 272(a) explicitly provides that all BOC "manufacturing" activities, without exception, must be undertaken through a separate affiliate. Accordingly, the term "close collaboration" should be narrowly construed to allow BOCs to work with manufacturers in cooperative activities which do not constitute manufacturing, to the extent necessary to ensure effective interconnection and interoperation of products designed for use in or connection to the BOC's network.

3. While a BOC is not required to conduct activities authorized pursuant to Section 273(b)(1) through a separate affiliate (because such activities do not include "manufacturing"), a BOC engaged in such activities must interact with its manufacturing affiliate(s) in a manner consistent with the structural separation requirements and related non-discrimination provisions of Section 272. Moreover, all activities undertaken pursuant to Section 273(b) must be conducted in accordance with the requirements of Section 273(c) and (e), whether or not the BOC has obtained manufacturing authority pursuant to Section 273(a).

B. BOC Research/Royalty Agreements [Staff Question No. 6]

1. To preserve the integrity of the statutory scheme, the provisions of Section 273(b)(2) also must be narrowly construed to exclude activities which fall within the scope of "manufacturing" as defined under the MFJ. By its terms, this provision permits a BOC to engage in research that is (or may be) "related to" manufacturing, but does not authorize the BOCs themselves to engage in "manufacturing." An interpretation that allows a BOC itself to engage in product-specific research that constitutes "manufacturing" would be inconsistent with the unqualified separate affiliate requirement established in Section 272(a). The fact that the Senate language authorizing BOC "research and design" was revised in conference to delete the reference to "design" activities is also strong evidence that this provision does not encompass such activities.

2. Rather, Section 273(b)(2) makes clear a BOC's ability to engage in "generic" basic and applied research and to license the intellectual property resulting from such activities to manufacturers, in return for compensation in the form of royalty payments. However, pursuant to Section 272(c)(1), where a BOC licenses intellectual property or other technical information to its manufacturing affiliate, such arrangements must be made available to other manufacturers on a non-discriminatory basis. To the extent that a BOC is permitted to engage in joint research with its manufacturing affiliate, the Commission should make it clear that any intellectual property arising from such activities also must be made available to all manufacturers on reasonable, non-discriminatory terms and conditions. Similarly, in order to reduce the potential for discrimination in procurement, the Commission should adopt rules which preclude licensing arrangements that provide for the receipt of royalties that are tied to the BOC's own purchases of equipment from licensed manufacturers. If necessary, the Commission should invoke its supplemental authority under Section 273(g) as a basis for such rules.

IV. INFORMATION DISCLOSURE REQUIREMENTS [TIA Comments pp. 18-26; Reply pp. 14-19; Staff Question Nos. 7-11]

A. Nature and Scope of BOC Disclosure Obligations

1. As the Commission has acknowledged, the FCC's Computer Rules and other existing information disclosure requirements were not designed to, and do not address "the specific needs of manufacturers who wish to develop new network products." [NPRM, Paragraph 18] While information released pursuant to the Part 51 or Part 64 disclosure rules may be useful to manufacturers, the Commission cannot assume that compliance with these rules is sufficient to satisfy the requirements of Section 273(c), which are designed to ensure that all manufacturers receive timely and non-discriminatory access to information that affects their ability to design network equipment and CPE that interconnects and interoperates effectively with BOC network facilities.

2. As the Commission also recognizes, the provisions of Section 273(c) apply "on their face" to all BOCs. [NPRM ¶ 17] Accordingly, the Commission should reject the RBOCs' attempt to exempt BOCs that are not engaged in manufacturing from the information disclosure requirements of Section 273(c). The RBOCs' proposed construction conflicts with the express terms and underlying purposes of the statute. Limiting application of these requirements to those BOCs that are engaged in manufacturing pursuant to Section 273(a) might lead the BOCs to withhold or delay public disclosure of information that affects the design of equipment and encourage discrimination in favor of non-"affiliate" manufacturers in which a BOC has a financial interest.

3. TIA agrees with the Commission's tentative conclusion that Section 273(c)(2) bars the BOCs from disclosing information which is required to be disclosed under Section 273(c)(1) unless it is publicly available, i.e., filed with the Commission. Moreover, Section 272(c)(1) imposes an independent non-discrimination obligation on a BOC that discloses network-related information to its manufacturing affiliate(s). To eliminate uncertainty and reduce the risks to competition arising from discriminatory disclosures of network-related information, the Commission should adopt rules which require a BOC that discloses any such information to one manufacturer to make the same information available to all manufacturers on equal terms and conditions. The Commission should invoke its supplemental authority under Section 273(c)(3) and, if necessary, Section 273(g) to establish such rules.

B. Timing of Disclosure - Assuming that the potential for BOC discrimination is contained in this manner, TIA believes that it may be appropriate to utilize the

"make-buy" point, at least initially, as a basis for determining timing of disclosures required pursuant to Section 273(c)(1). TIA's proposed rules generally require disclosure of network changes at the make/buy point, but at least 12 months prior to implementation; where changes can be implemented on less than 12 months notice, disclosure would be required at the make/buy point, but at least 6 months before implementation. TIA also supports an appropriately-crafted exemption for bona fide equipment trials.

C. **Method of Disclosure** - Section 273(c)(1) requires each BOC to "maintain and file" information concerning its network protocols and technical requirements and changes thereto "with the Commission." TIA's proposed rules would require the BOCs to submit an "official" paper copy and diskette copies to the Commission, in a format similar to that established for notices under Section 251(c)(5), in order to ensure the reliability and security of the information contained in the notice.

[Note: In response to Question Nos. 9-11, Section 273(c) imposes independent disclosure obligations on "each" BOC, and would appear by its terms to require the submission of "baseline" information concerning the BOC's network that falls within the scope of this provision. TIA is unable to estimate the total volume of material required to provide "full and complete" baseline information, but is willing to explore ways of reducing the burden on the affected carriers and the Commission, where such concerns can be accommodated in a manner consistent with the underlying purposes of the statute.]

D. **Content of Disclosure** - TIA's proposed rules implementing Section 273(c)(1) would require, at a minimum, that each BOC disclose information concerning all protocols and technical requirements for connection with and use of any of the BOC's designated points of interconnection and all BOC network elements, including information relating to 1) connections between BOC network elements, and 2) connections between customer premises equipment and BOC network elements.

E. **Treatment of Proprietary Information** - While the fact that information subject to disclosure may be considered confidential or proprietary cannot be used to "shield" a BOC from compliance with the requirements of the statute, TIA supports adoption of rules providing for the disclosure of any proprietary or confidential information which falls within the scope of Section 273(c) pursuant to an appropriate non-disclosure and/or licensing agreement.

V. BELLCORE; STANDARDS/CERTIFICATION PROVISIONS [TIA Comments pp. 26-45; Reply pp. 20-26]

A. Bellcore Manufacturing [Staff Question No. 13]

1. TIA takes exception to the FCC's tentative conclusion that the announced sale of Bellcore to SAIC will operate to free Bellcore from the manufacturing restriction imposed under Section 273(d)(1). TIA urges the Commission to defer making a determination on this issue until full and complete information is available with regard to the proposed sale and future relationship(s) between and among the BOCs, Bellcore, SAIC, and the new National Telecommunications Alliance (NTA).

2. In order to determine definitively whether Bellcore will be permitted to manufacture following its proposed sale to SAIC, it is not sufficient to look only at whether the RBOCs have retained "ownership" interests in Bellcore. Consistent with the provisions of Section 273(d)(1), the Commission also must gather sufficient information to make an informed judgment as to whether the RBOCs individually or collectively, will retain de jure or de facto "control" over Bellcore.

   [Note: In response to the staff's Question No. 13, TIA construes Section 273(d)(8)(A) as superseding the general definition of "affiliate" contained in Section 3 of the Act only to the extent that it imposes a lower threshold for ownership for purposes of Section 273(d)(1)(B). The language employed in Section 273(d)(8) does not address any other aspect of the Section 3 definition, and therefore an analysis of the "control" issue remains relevant to a determination as to whether the Section 273(d)(1)(B) restriction remains applicable.]

3. TIA agrees with the Commission's tentative conclusion that to the extent Bellcore is permitted to engage in manufacturing, it must do so in a manner consistent with the "separate affiliate" requirements and other safeguards established in Section 273(d). However, TIA disagrees with Bellcore's assertion that Section 273(d)(3) allows it to choose whether to place manufacturing or certification activities in a separate affiliate, and believes that this section clearly contemplates that it is the certifying entity's manufacturing activities that must be conducted through a separate affiliate. TIA also opposes Bellcore's suggestion that it should be allowed to utilize "experts" that are employed in its standards and certification activities in connection with its manufacturing activities as well, notwithstanding the statutory requirement that such activities must have "segregated facilities and separate employees." (See Bellcore Reply - pp. 14-15)

B. Standards/Certification

1. TIA urges the FCC to adopt the definition of the term "standards" proposed by TIA, which is based on the definition proposed by OMB in its revised Circular No. A-119, with certain modifications designed to reflect the specific requirements and underlying purposes of Section 273(d).

2. TIA believes that Section 273(d) was not intended to address the development of standards by accredited SDO's or the interoperability testing and related activities of individual manufacturers, and urges the Commission to define the term "standards" and clarify the term "certification," in order to ensure that Section 273(d) is not inappropriately applied to such entities.

3. Consistent with the requirements of Section 273(d)(4), the FCC should make it clear that Bellcore and other non-accredited SDOs that are engaged in the development of "industry-wide" standards or generic requirements must adopt funding arrangements that are reasonable, non-discriminatory, and non-exclusionary. In this regard, TIA urges the use of a "sliding-scale" approach to funding, a "one vote per company" rule, and a requirement that prospective participants be given the opportunity to enter/exit and fund projects at various stages.

4. In applying the provisions of Section 273(d)(4), the Commission should take care to ensure that to the extent that RBOC joint purchasing activities encompass the development of "industry-wide" standards or generic requirements, they are conducted in a manner consistent with the requirements of this section.

5. Parties seeking to have the requirements of Sections 273(d)(3) or (d)(4) removed pursuant to Section 273(d)(6) properly bear the burden of demonstrating that such action is appropriate, and should be required to provide appropriate documentation demonstrating that there are other sources providing commercially viable alternatives to the applicant's standards, generic requirements, or certification services, which are in fact used within the industry. Bellcore's proposed construction of this provision clearly conflicts with the express requirements of the statute, and must be rejected.

VI. BOC PROCUREMENT [TIA Comments pp. 46-53; Reply pp. 26-29]

A. Scope of Application [Staff Question Nos. 14-15] - TIA believes that the procurement requirements of Section 273(e) apply to <u>all</u> BOCs, not merely those authorized to engage in manufacturing, through a separate affiliate, pursuant to Section 273(a). Construing the provisions of Section 273(e) as applicable only to

BOCs that are actually engaged in manufacturing would be contrary to the language and underlying purposes of this section, which includes provisions barring BOC discrimination in favor of "affiliates" or "related persons" and requires "each" BOC, without exception, to purchase solely on the basis of "price, quality, delivery, and other commercial factors."

While the Commission need not look beyond the literal terms of this section of the statute, application of the Section 273(e) requirements to all BOCs is consistent with the overall purposes of Section 273, which is designed to ensure that all manufacturers continue to have the opportunity to compete on the merits of their respective products. It is unlikely that a BOC and its parent RBOC will not have a material financial interest of some sort in particular manufacturers, irrespective of whether the RBOC itself has been authorized to manufacture pursuant to Section 273(a). The existence of any such interests creates incentives for discrimination in BOC procurement, even where the BOC has no "affiliate" that manufactures.

B. Non-Discrimination Requirements [Staff Question No. 17]

1. In implementing Section 273(e)(1)(A), a BOC must do more than merely announce that its procurement process is open to "unrelated persons." The requirements of Section 273(e)(1)(B) and (e)(2) explicitly require the BOCs to affirmatively avoid discrimination and make procurement decisions based on an "objective assessment" of the relative merits of products produced by "related" and "unrelated" persons.

2. The language of Section 273(e)(1)(B) unequivocally bars any form of discrimination in favor of equipment produced or supplied by a BOC "affiliate" or "related person." For purposes of this section, the latter term should be defined to include all BOC "affiliates," as well as any supplier in which a BOC or its parent RBOC has a material financial interest that gives it a direct and continuing share of the supplier's business or revenues.

3. Consistent with the approach adopted in its Non-Accounting Safeguards Order, in implementing Section 273(e)(2), the Commission should resist RBOC efforts to narrow the scope of the statutory terms "equipment," "services," and "software." In addition, the Commission should clarify that the inclusion of the phrase "other commercial factors" does not provide a basis for preferential treatment of BOC "affiliates" (or "related persons") or other anticompetitive procurement practices.

   [Note: In response to the staff's Question No. 17, TIA does not believe that the phrase "other commercial factors" requires further clarification at this time.]

C. Enforcement [Staff Question Nos. 1, 16, 18]

1. TIA strongly agrees with the Commission's observation that traditional, complaint-based mechanisms are likely to be inadequate in ensuring compliance with the procurement requirements and other safeguards contained in 273 and related provisions.

2. Accordingly, TIA urges the Commission to establish additional enforcement mechanisms. In particular, TIA believes that each BOC should be required to prepare and submit for approval plans describing the standards and procedures which the BOC will employ to ensure compliance with the requirements of Section 273(e) (including those relating to the protection of vendor proprietary information) and the other non-structural safeguards established in Sections 272 and 273 of the Act.

   A requirement of this nature would allow the BOCs flexibility and should not be unduly burdensome, since they were subject to a similar requirement, pursuant to Section II.C. of the MFJ, for more than a decade prior to enactment of the 1996 Act. Implementation of such a requirement would ensure at least some degree of transparency in the BOCs' procurement process, and would provide a more effective basis for ensuring compliance than an approach which relies solely on case-by-case, complaint-based determinations.

3. In addition, TIA urges the Commission to adopt appropriate reporting and record retention requirements, in order to ensure the availability of information necessary for effective monitoring and enforcement.

4. The Commission should also utilize the biennial audits required under Section 272(d), as well as spot examinations of BOC procurement records, to ensure compliance.

STAR

Standards and Technology Annual Report

Telecommunications Industry Association

1996

"American companies must understand that standardization is a strategic business issue that has direct impact on new product development. There is a direct relationship between leadership in standards and leadership in technology."

✳

George Fisher, CEO, Eastman Kodak,
as reported in June 1996 TIA *Industry Pulse*

"Countries or companies that fail to make their work global will not be able to lead."

✳

Bill Gates, CEO, Microsoft, in *The Road Ahead*

Engineering Documents

1996 marked yet another successful year for both Global and TIA. Our partnership has been strengthened throughout the years through continuous product enhancements as we continue to explore new opportunities for growth.

The successful relationship between Global and TIA has been reinforced by our ability to keep up with the ever-changing environment of the telecommunications industry. Customers who must meet critical deadlines or need information at a moment's notice can count on Global's immediate response and commitment to service. In fact, over 85 percent of all orders are shipped the same day. We are pleased to announce that we are now taking orders on the Internet at *http://global.ihs.com.*

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Global, together with its parent company, Information Handling Services, has grown in size and now includes international offices in Hong Kong, Paris, Miami (Latin America), UK, Canada, Cairo, Tel Aviv, Munich, Sydney, Mexico City and Johannesburg. This means more powerful service and exposure for TIA standards. And it's just one more step Global and TIA have taken to promote industry and international standards worldwide.

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Senior Vice President
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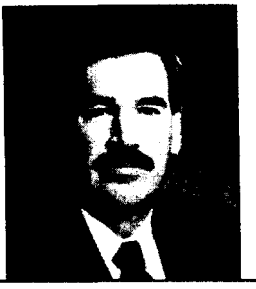
The President's Desk



Matthew J. Flanigan
TIA President

The 1996 STAR marks the third edition of TIA's Standards and Technology Annual Report. For more than 50 years, TIA and its predecessors have been actively writing standards for the telecommunications equipment industry. Now, more than ever, these standards are an indispensable part of the Association's activities. TIA's commitment to provide the resources necessary for our standards activities not only remains, but is increasing. As network infrastructure technology becomes an increasing national and global priority, TIA's Standards and Technology Department has been and will continue to be called on to oversee the standards process necessary to facilitate the network's needs. STAR reflects the outstanding work of the dedicated individuals involved in TIA's standards program and the growing importance of their work on the global stage.

STAR recognizes the efforts of the individual committees that create TIA's standards. I would also like to acknowledge some of the outstanding work, which lies outside the actual standards creation process, that the Standards and Technology Department accomplishes. In the arena of standards, beyond creating the documents, the department takes the next step in the dissemination process. The department facilitates the promotion of its standards through a variety of means including:

- Directly coordinating activities with our publishing partner, Global Engineering Documents;
- Supporting a highly successful World Wide Web page that promotes the standards with brief abstracts of each document (www.tiaonline.org);
- Creating press releases to alert industry publications of the availability of new standards; and
- Conducting standards seminars and participating in international standards organizations.

These and several other activities ensure that our technical documents are effective, by fostering demand for the documents and by making them readily available.

TIA Standards and Technology Department staff also participates in several significant industry work groups such as the Federal Communications Commission's North American Numbering Council and holds positions such as the U.S. Secretariat to the North American Free Trade Agreement-based Consultative Committee Telecommunications and the chair of the Telecommunications Access Advisory Committee (TAAC). In addition, the department sponsors the annual Commercial Building Cabling Standards Seminar, informing the building industry of standards activities. All of these activities contribute to the industry at large as well as to the promotion of U.S. standards.

Several TIA staffers also promote the Association's activities on a global basis, representing TIA and the U.S. telecommunications equipment manufacturing industry at the International Telecommunication Union (ITU). From the ITU's Telecommunication Standardization and Radiocommunication Sectors to the Development Sector and organizing USA Pavilions at the TELECOM shows, TIA is extremely active in ITU events. Whether it be attending preparatory meetings at the Department of State or participating in key seminars at ITU headquarters in Geneva, U.S. telecom standards interests are being promoted in these vital forums.

In addition to the aforementioned standards-related activities, the department supports regulatory work ranging from FCC filings to implementation of global conformity issues.

Augmenting the work of the hundreds of contributors to TIA's standards efforts, TIA's standards activities demonstrate an industry presence whether they are reported in *Wireless Week* or introduced into the ITU's forums. STAR is a celebration of all of these efforts. TIA urges you to aid us in supporting the work and valued contributions of these individuals by conferring resources—human or other—to this extremely important effort.

Sincerely,

Matthew J. Flanigan
President
Telecommunications Industry Association

From the Technical Committee Chair

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Chair, Technical Committee

1996 was a very busy and productive year for the Technical Committee and the Standards and Technology Department of TIA, which is guided by the committee's oversight. In August 1995, the TIA Board voted to create a new Satellite Communications Division (SCD) and to merge the Satellite Section, previously contained within the Network Equipment Division, into SCD.

This new division was created early in 1996. The SCD met frequently throughout the year and created subtending sections and requested a revitalization of Engineering Committee TR-34, Satellite Equipment and Systems, to address satellite industry technical matters. TR-34 has also created a joint committee with TR-14, Point-to-Point Communications Systems, to address technical spectrum sharing issues. The TIA Board also authorized the addition of two new staff in 1996 to the Standards and Technology Department to support the work of SCD, its sections and TR-34.

International standards activities grew in 1996. TIA participated in an International Organization for Standardization/International Electrotechnical Commission/International Telecommunication Union (ISO/IEC/ITU) seminar on Global Information Infrastructure (GII) standardization needs in January in Geneva.

Association staff also participated in the Permanent Consultative Committee of the Inter-American Telecommunication Commission (CITEL) of the Organization of American States, as well as in activities of the International Telecommunication Union (ITU).

TIA maintained its role as the U.S. Secretariat for the Consultative Committee Telecommunications (CCT) working on standards harmonization under the North American Free Trade Agreement and participated in the activities of the Asia Pacific Economic Cooperation (APEC) forum. TIA also attended two Radio Standardization (RAST) meetings and the Global Standardization Collaboration (GSC-3) meeting held in Kyongju, Korea in September 1996. GSC is a collaborative effort of participating standards organizations from Japan, Korea, Australia, Canada, the European Union and the United States to support the work of the ITU. The TIA Board authorized three additional staff for the Standards and Technology Department in 1996 to support its expanded international standards activities.

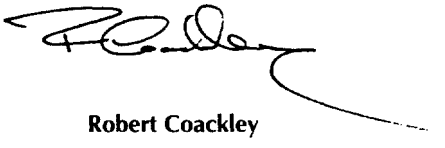
In addition, TIA has maintained active participation in the American National Standards Institute (ANSI)-sponsored Information Infrastructure Standards Panel (IISP) as well as serving on the IISP Steering Committee. TIA also takes part in many other ANSI activities, such as the Intellectual Property Ad Hoc Working Group.

The critical need for timely domestic and international standards was a clear message from surveys undertaken by both TIA and the Electronic Industries Association. In a typical year, TIA publishes about one document per week. In 1996 that load doubled and based on the projects in the pipeline, the Association faces an ever-increasing workload through the department and its engineering committees and subcommittees in the years ahead.

The major strategic directions for the Technical Committee include more cooperative work with other standards developing organizations, both domestic and international, shortening the timeline for standards creation, and electronic creation and distribution of standards. For example, in 1996, TIA entered into a revised agreement with Committee T1, sponsored by the Alliance for Telecommunications Industry Solutions, for Joint Standards Documents (JSD) and harmonized its intellectual property rights policy with T1. We also saw a dramatic increase in the sales of our standards. The royalties from those sales help support the overall standards program.

For 1997, TIA plans to increase secretariat support for the busy engineering committees and subcommittees, to work on issues of converging technology, and assist the government in its implementation of the National Technology Transfer and Advancement Act (PL 104-113) which calls for greater reliance and use of voluntary, private sector consensus standards by the government.

Sincerely,



Robert Coackley
Chair, Technical Committee

From the Chairman

eigh S. Belden

Chairman of the Board

The past year marked the end of my two-year tenure as Chairman of TIA's Board of Directors. Since I began my chairmanship in 1995, it has been an honor and a pleasure working within this dynamic industry, responsible for so many of the changes occurring in our society today. An integral part of this period has been the Board's recognition of the importance of standards development work and subsequent allocation of resources for this core area of TIA's activities. Indeed, the increase in industry demand for standards has directly corresponded with the Association's growth. TIA's Standards and Technology Department and engineering committees have responded to market demands, doubling standards output. With an increasing focus on global products, the value of this work cannot be underestimated. National and international standards efforts are vital to enabling global and cohesive growth among telecom equipment manufacturers.

The Board's actions are a response to the concerns of TIA member companies. In a recent membership survey, 26 percent of TIA members said they joined the Association primarily to participate in standards activities. In addition, the survey revealed that standards development activities, both national and international, were given a top priority when participants were asked to rate the importance of various TIA activities. In particular, larger companies ranked standards development with a "very high priority." Also, results of an Electronic Industries Association membership survey, to which TIA members responded more than any other sector of the federation, indicated that 73 percent of the respondents considered the impact of national and international standards as either critical or highly important to business success.

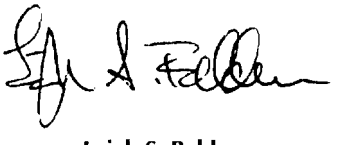
Under my tenure, the Board supported the Standards and Technology Department's effort to develop not only more standards, but better standards more quickly. The TIA membership survey revealed that members wanted a faster standards process. TIA Vice President of Standards and Technology Dan Bart is currently examining and implementing new ways to speed up this critical process. Members asked for electronic versions of TIA's standards catalog. Responding to this need,TIA's standards catalog is now on our Web site (www.tiaonline.org) and Global Engineering Documents, TIA's partner in standards publishing, now offers a CD-ROM version of the catalog.

But our efforts didn't stop there. To expand the dissemination of TIA standards on a global level, the Standards and Technology Department is now exploring the translation of particularly critical standards into foreign languages. If successful, this movement will provide U.S. telecom manufacturers with easier access to global markets. Adopting TIA standards will enable foreign nations to overcome their own internal barriers to telecom development and assist in the realization of the intended benefits of lower tariffs and quota requirements for the development of national telecom infrastructures.

Standards will continue to play an increasingly important role in TIA and the global telecom industry as a whole. As the international telecom infrastructure continues to develop, standards will provide the foundation. TIA has and will continue to be a leader in the development of voluntary industry standards.

Without the dedicated work of the engineering committee chairs and the hundreds of participants involved in the individual committees, subcommittees and working groups, none of this growth would have been possible. The 1996 STAR is truly their document. Their outstanding efforts have made TIA's standards program one of the world's best.

Sincerely,



Leigh S. Belden
Chairman of the Board

Division Chairs

TIA's Standards and Technology Department is composed of five product-oriented divisions which sponsor over 70 standards-setting formulating groups. The committees and subcommittees sponsored by the divisions — Fiber Optics, User Premises Equipment, Network Equipment, Mobile and Personal Communications and Satellite Communications — develop standards to serve the industry and users well into the next century.

onald J. Angner

Chair, TIA User Premises Equipment Division
Director, MWBE/Business Development Strategies
Lucent Technologies, Inc.

uy W. Numann

Chair, TIA Network Equipment Division
President, Communications Sector
Harris Corporation

esse E. Russell

Chair, TIA Mobile and Personal Communications Division
Chief Wireless Architect
AT&T Bell Laboratories

an H. Suwinski

Chair, TIA Fiber Optics Division
Executive Vice President, Opto-Electronics Group
Corning Inc.

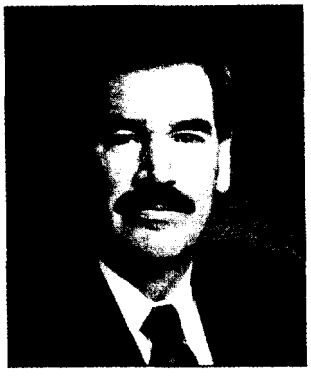
homas Brackey

Chair, TIA Satellite Communications Division
Director of Technical Operations
Hughes Space and Communications Company

1996 Board of Directors

eigh S. Belden

TIA Chairman
President & CEO
Verilink Corporation



atthew J. Flanigan

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Telecommunications
Industry Association

on Grawert

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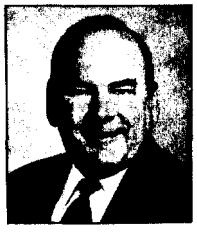
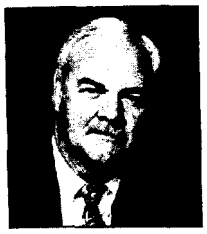


George Fath

Vice President &
General Manager-RLMR
Ericsson GE

1996 Board of Directors



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DSC Communications Corporation

Bill Williams

Vice President-Sales
Coil Sales & Manufacturing Co.

· **Executive Committee Member**

Governing Global Communications by **Earl S. Barbely,** *Director,* Telecommunications and Information Standards, U.S. Department of State

arl S. Barbely

Throughout life there are hierarchies, whether they be within the family structure or multinational corporations. Telecommunications standards bodies are no different. Whether by a subcommittee, an association, or a national standards body, there is always a higher authority and for the telecommunications equipment and services industries that authority is the International Telecommunication Union (ITU).

Created in 1865 as the International Telegraph Union, the ITU has undergone many changes, paralleling the history of telecommunications. In 1934, the ITU's current name was adopted to reaffirm the full scope of communications from wire and radio to optical and electromagnetic systems. After the second World War, under agreement with the United Nations (UN), the ITU became a specialized agency of the UN and transferred its headquarters from Bern to its current home in Geneva.

The ITU functions as an inter-governmental organization, one of the very few international organizations in which the private sector plays an important and leading role in cooperation with the public sector. The ITU adopts international regulations and treaties governing all terrestrial and space uses of the frequency spectrum, including satellite systems, within which countries set their national policies. Leading the development of telecommunications on a worldwide scale, the ITU also fosters the growth of telecommunications in developing and less developed countries through a variety of activities, policies and strategies including World Telecommunication Standardization Conferences (WTSC), World Telecommunication Policy Forums (WTPF), Telecommunication Standardization Advisory Group (TSAG) meetings, Radiocommuncation Advisory Group (RAG) meetings, and worldwide and regional TELECOM shows. In addition, the ITU develops Recommendations (voluntary standards) to facilitate the interconnection of telecommunications systems on a global scale.

The ITU covers three main sectors of the telecommunications industry:

- Technical domain: To promote the development and efficient operation of telecommunications facilities and networks, in order to improve the efficiency of telecommunications services, their usefulness, and their general availability to the public;
- Development domain: To provide and offer technical assistance to developing countries in the field of telecommunications, to promote the mobilization of the human and financial resources needed to develop telecommunications, and to promote the extension of the benefits of new telecommunications technologies to people everywhere; and,
- Policy domain: To promote, at the international level, the adoption of a broader approach to the issues of telecommunications in the global information economy and society.

World Radiocommunciation Conference (WRC-95) held at Geneva International Conference Center, October-November 1995

The actual structure of the ITU is broken down into three sectors-the Radiocommunication Sector (ITU-R, formerly known as CCIR), the Telecommunication Standardization Sector (ITU -T, formerly known as CCITT) and the Telecommunication Development Sector (ITU-D). Authority of the ITU-T is delegated to the quadra-annual Plenipotentiary Conference and the annual ITU Council which acts on behalf of the plenipotentiary conferences. Work is accomplished by world conferences on international telecommunications and the key study group activities of each of the three sectors. The Radiocommunication Sector is governed by the biannual World Radiocommunication Conferences (WRC).

View of a pavilion at the ITU-sponsored TELECOM trade show held at Palexpo, Geneva

The Three Sectors

The role of the Radiocommunication Sector is to enable rational, equitable, efficient and economical use of the radio-frequency spectrum by all related services. This is accomplished through the regulation of the essential use of frequencies. To carry out this work, it was decided to separate the voluntary standards setting activities from its activities related to the efficient management of the radio-frequency spectrum in terrestrial and space communications. Areas covered by the ITU-R Sector include spectrum utilization and monitoring, inter-service sharing and compatibility, science services, radio wave propagation, fixed-satellite service, fixed service, mobile services, sound broadcasting, and television broadcasting.

The duties of the Telecommunication Standardization Sector are to study technical, operating and tariff questions and to issue Recommendations (voluntary standards) on them with a view to standardizing telecommunications on a worldwide basis. These efforts include developing voluntary standards on interconnection of telecommunciations systems in public telecommunications networks and on performance requirements for these interconnections.

The role of the Telecommunication Development Sector is to execute the ITU's dual responsibility as a United Nations specialized agency and executing agency for implementing projects under the United Nations development system or other funding arrangements. The aim is to facilitate and enhance telecommunications development by offering, organizing, and coordinating technical cooperation and assistance activities.

Study Groups, which are found in all three sectors, are bodies of experts in which public administrations and private sector entities participate. For example, ITU-T Study Groups focus of work is on standardization of telecommunications of services, operation, performance and maintenance of equipment, systems, networks and services, tariff principles and accounting methods. Although not binding, ITU Recommendations are generally complied with because they facilitate the interconnectivity of networks and technically enable services to be provided on a worldwide scale.

Currently, ITU-R administers eight Study Groups, ITU-T includes fourteen and ITU-D has two Study Groups.

Missions Beyond Telecom Development

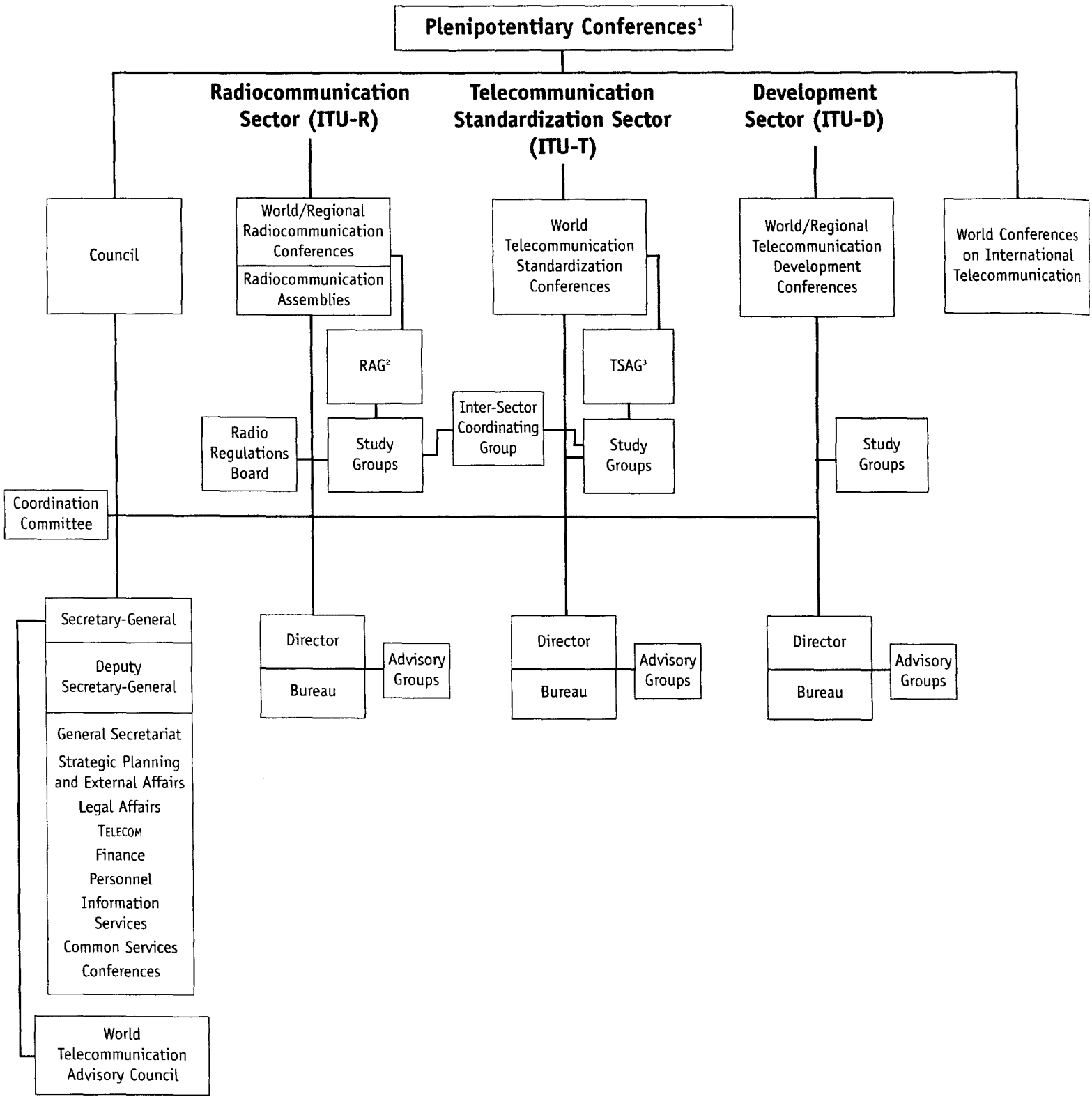
One of the ITU's current missions is to play a role in preserving and enhancing the quality of the human environment including the natural, social and cultural environments in which we exist. Communications and computers — the technologies at the heart of the information age — will save energy and natural resources through more efficient production techniques, as well as better monitoring and control of our natural and man-made environments. But for every societal and cultural benefit guaranteed by information technologies, there is a corresponding threat.

The ITU recognizes the possibility of information overload. Instead of promoting diversity of expression, the information industries may lead to homogenization of thought. While the industries do not cause pollution in the usual sense, the sight of antennas on rooftops, hills and mountains may be unpleasant for some. Thus the ITU seeks to explore the possibility of visual and information pollution becoming an issue in the future.

Addressing the growing disparity between information enabled and disabled societies is a key issue for the ITU. The ITU is currently discussing the feasibility of a global information economy when the majority of the world's population does not have access to basic telephony. With these and the many programs of the ITU-T, R and D sectors, the ITU strives to bridge the gap between the information rich and the information poor. The ITU believes the world should be able to reap the benefits of this dynamic industry, including such new capabilities as telemedicine and distance learning.

Earl S. Barbely has been the U.S. Department of State National Chairman of ITU Activities Relative to Standardization since 1983. During that time he has led numerous U.S. industry/government delegations to ITU-T standardization meetings covering technical issues, numbering issues, tariff and accounting principles, and policy issues. He also acts in the capacity as the U.S. Counselor to the annual ITU Council and has represented U.S. government and industry at several world telecommunications conferences. Mr. Barbely had seventeen years of experience in the both the domestic and international telecom industries with ITT and MCI before joining the Department of State.

of the ITU



[1] The next Plenipoteniary Conference is scheduled for October 1998 in Minneapolis, MN

[2] Radiocommunication Advisory Group

[3] Telecommunication Standardization Advisory Group